

Claims:

- 102290" T208860
- Sub A. 1. A sucker rod coupling comprising:
- (a) a hollow, cylindrical coupling blank fabricated of hardenable metal;
 - (b) a wear layer on an outer surface of said coupling blank; and
 - (c) fully cold formed threads on an inner surface of said coupling blank.
2. The coupling of claim 1, wherein said fully cold formed threads are rolled threads.
3. The coupling of claim 1 wherein said wear layer comprises spray metal heat fused to said outer surface.
4. The coupling of claim 3 wherein said wear layer has a Rockwell hardness of at least 40 HRC.
5. The coupling of claim 3 wherein said wear layer is at least 0.010 inches thick.
6. The coupling of claim 1 wherein said coupling blank is liquid quenched and tempered to a Rockwell hardness of about 27 to 32 HRC.
7. The coupling of claim 3 wherein said wear layer has a surface finish not exceeding 63 $\mu\text{in } R_a$.
8. The coupling of claim 3 wherein said spray metal comprises 76-M-50-S or similar spray metal powder of about 115 to 325 mesh.
9. The coupling of claim 1 wherein said coupling blank comprises AISI 8630 or 4130 steel.

10. A method for fabricating a sucker rod coupling, comprising the steps of:
- (a) forming a hollow, cylindrical coupling blank from hardenable metal;
 - (b) applying a wear layer on an outer surface of said coupling blank;
- and
- (c) forming fully cold formed threads on an inner surface of said coupling blank.
11. The method of claim 10, wherein said fully cold formed threads are rolled threads.
12. The method of claim 10 further comprising:
- (a) spraying said outer surface with a spray metal; and
 - (b) heating said coupling blank to fuse said spray metal to said outer surface thereby forming said wear layer with a Rockwell hardness of at least 40 HRC.
13. The method of claim 12 wherein said wear layer is at least 0.010 inches thick.
14. The method of claim 10 further including austenitizing said coupling blank at about 870 °C and then liquid quenching and tempering said coupling blank to a Rockwell hardness range of about 27 to 32 HRC.
15. The method of claim 12 including the additional step of rough grinding and grit blasting said outer surface prior to spraying said outer surface with said spray metal thereby obtaining improved spray metal adhesion to said outer surface.
16. The method of claim 10 including the additional step of finishing said wear layer to a surface finish not exceeding 63 μ in R_a.
17. The method of claim 12 wherein said spray metal comprises 76-M-50-S or similar spray metal powder of about 115 to 325 mesh.

0988071-062201
T02290-T208860

18. The method of claim 10 wherein said coupling blank comprises AISI 8630 or 4130 steel.
19. The method of claim 10 including the additional step of finishing coupling faces of said coupling by machining to specified dimensions.
20. The method of claim 10 comprising the additional step of coating said coupling with phosphate to minimizing thread galling.
21. A method for fabricating a sucker rod coupling, comprising the steps of:
- (a) forming a hollow, cylindrical coupling blank fabricated of hardenable metal; and
 - (b) forming fully cold formed threads on an inner surface of said coupling blank.
22. The method of claim 21, wherein said fully cold formed threads are rolled threads.
23. The method of claim 21 comprising the additional steps of fabricating a wear layer on an outer surface of said coupling blank by:
- (a) depositing a metallic powder on an outer surface of said coupling blank; and
 - (b) heating said coupling blank to fuse said metallic powder to said outer surface thereby forming said wear layer.

09888071.062201